

Claims

What is claimed is:

1. A method for tracing an instrumented program, comprising:
 - associating an instrumentation provider with a trace point to provide a probe in the instrumented program;
 - selectively enabling the probe to obtain an enabled probe, wherein enabling the probe includes defining an action to perform when the enabled probe is fired;
 - firing the enabled probe during execution of the instrumented program; and
 - performing the action when the enabled probe is fired, wherein the action is performed by a tracing framework.
2. The method of claim 1, further comprising:
 - receiving a request from a tracing consumer to selectively enable the probe.
3. The method of claim 2, wherein the request comprises a tuple having a name component, a module component, a function component, and a name component.
4. The method of claim 1, further comprising:
 - disabling the enabled probe if no tracing consumer is requesting the enabled probe.
5. The method of claim 1, further comprising:
 - removing the probe when the instrumentation provider that provided the probe is unregistered.
6. The method of claim 1, wherein associating the instrumentation provider with the trace point comprises:

determining whether the probe is currently provided at the trace point;
requesting the tracing framework to create the probe if the probe is not
currently provided at the trace point; and
generating a probe identifier associated with the probe.

7. The method of claim 1, wherein the probe is enabled using the instrumentation provider.
8. The method of claim 1, wherein selectively enabling the probe comprises:
receiving a request from a tracing consumer to enable the probe;
determining the instrumentation provider that provided the probe;
requesting the instrumentation provider that provided the probe to enable the
probe; and
enabling the probe by the instrumentation provider to obtain the enabled
probe, wherein the enabled probe includes functionality to call into
the tracing framework when the enabled probe is fired.
9. The method of claim 1, wherein firing the enabled probe comprises calling into
the tracing framework.
10. The method of claim 8, wherein the call into the tracing framework comprises a
probe identifier associated with the enabled probe.
11. A system for tracing an instrumented program having a trace point, comprising:
an instrumentation provider configured to associate the trace point to a probe
and to enable the probe;
a tracing consumer configured to request that the probe be enabled, wherein
the request defines an action to perform when the enabled probe is
fired; and

a tracing framework configured to forward the request to the instrumentation provider and configured to perform the action, if the probe is enabled.

12. The system of claim 11, wherein the tracing framework is further configured to create the probe.

13. The system of claim 12, wherein creating the probe comprises assigning a probe identifier to the probe.

14. The system of claim 11, wherein associating the trace point to the probe comprises:

determining whether the probe is currently provided at the trace point;
requesting the tracing framework to create the probe if the probe is not currently provided at the trace point; and
generating a probe identifier associated with the probe.

15. The system of claim 11, wherein the request comprises a tuple having a name component, a module component, a function component, and a name component.

16. The system of claim 11, wherein the tracing framework performs the action when the probe is fired.

17. The system of claim 16, wherein the tracing framework is provided with a probe identifier when the probe is fired.

18. The system of claim 11, wherein the tracing framework is configured to register the instrumentation provider.

19. The system of claim 11, wherein the tracing framework is configured to unregister the instrumentation provider when the instrumentation provider is unloaded.

20. A network system having a plurality of nodes, comprising:
- an instrumented program having a trace point;
 - an instrumentation provider configured to associate the trace point to a probe and to enable the probe;
 - a tracing consumer configured to request that the probe be enabled, wherein the request defines an action to perform when the enabled probe is fired; and
 - a tracing framework configured to forward the request to the instrumentation provider and configured to perform the action, if the probe is enabled, wherein the instrumented program resides on any node of the plurality of nodes, wherein the instrumentation provider resides on any node of the plurality of nodes, wherein the tracing consumer resides on any node of the plurality of nodes, and wherein the tracing framework resides on any node of the plurality of nodes.
21. A system for tracing an instrumented program having a probe, comprising:
- a first tracing consumer configured to request that the probe be enabled and perform a first action when fired;
 - a second tracing consumer configured to request that the probe be enabled and perform a second action when fired; and
 - a tracing framework configured to enable the probe in accordance with the first tracing consumer and the second tracing consumer.